

Claim Rejections - 35 USC § 112

Claims 20 and 23-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant has claimed that there is a means for monitoring torque change on a rotor drive shaft which is indicative of a power demand change and that the FADEC monitored the torque change. However, the specification seems to only mention "torque" and FADEC in paragraph 26. Paragraph 26 also mentioned "an inputted signal 39 representative of torque change on a drive shaft, such as the electric generator drive shaft, as sensed by a sensor 41, preferably mounted on the shaft, indicating power demand change". Nowhere else in the specification does it mention "torque", especially with FADEC and the engine 40, which applicant seems to be claiming.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wojciehowski et al in view of Schafer et al and Wikipedia.org.

Wojciehowski et al teaches a system for generating accessory power from a gas turbine engine that uses a pneumatically operated means 26 for receiving bleed air and controlled by a control valve 46 and for generating power to operate equipment onboard (see figure 1) on the aircraft but is silent on the means for monitoring torque change on a rotor drive shaft which is indicative of a power demand and means for supplying information about said monitored torque to the FADECs. Wikipedia.org discloses what is basic knowledge concerning torque, power, and the engine. $\text{Power} = \text{engine speed} \times \text{torque}$ and that torque is measured by a dynamometer, which is well known in the art. Schafer et al teaches that FADECs (which has feedback loops) are well known in the art to monitor and control elements in an engine system (which seems to include the torque of the engine) are well known in the art. Schafer et al's FADEC monitors the engine speed (see column 1, line 42) as well as the power requested. See column 2, line 30-44. The engine speed is equal to power divided by the torque. Hence, although Schafer et al doesn't mention "torque" it seems evident that torque is supplied to and is monitored by Schafer et al's FADEC. This is reinforced by Wikipedia.org.

It would have been obvious to one skilled in the art at the time the invention was made to have used FADECs in Wojciehowski et al's system as taught by Schafer et al and Wikipedia.org to safely and efficiently generate power to operate the aircraft equipments. Plus, the FADEC system also monitors the performance of the engine to optimize its performance and supplied necessary power to other components on the aircraft.

As for the last paragraph of amended claim 20, Wojciehowski et al teaches that the pneumatically operated means 26 for receiving bleed air and for generating shaft power (the shaft can be seen attached to the element 26 and clearly extends aft to drive the pump 28. This

reduces demand for shaft power from the rotor drive shaft, which leads to increasing stall margin available to a high pressure compressor of engine.

Claims 26, 27, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wojciehowski et al as modified by Schafer et al and Wikipedia.org, as applied to claim 20 above, and further in view of the admitted prior art on page 5, paragraph [0028].

Wojciehowski et al as modified by Schafer et al discloses all claimed parts except for the pneumatically integrated generators for supplying electrical or mechanical power. However, the admitted prior art on page 5, paragraph [0028] teaches that pneumatically integrated generators that supply electrical and mechanical powers are well known in the art.

It would have been obvious to one skilled in the art to have used additional pneumatically integrated generators in Wojciehowski et al's system as modified by Schafer et al and as taught by the admitted prior art on page 5, paragraph [0028] to generate power for other accessories. Please note that accessories such starter/generators, fuel pumps, etc. and gearboxes are well known in this day and age and one skilled in the art can use the pneumatically integrated generators to generate power to supply power to the accessories.

Response to Arguments

The examiner has brought forth the Wikipedia.org reference to show that monitored torque that is indicative of a power demand change is well known. This teaching along with Wojciehowski and Schafer teach what has been claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 571-272-6899. The examiner can normally be reached on 12-8.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Tien Dinh/
Primary Examiner, Art Unit 3644